

PATENT ABSTRACTS OF JAPAN

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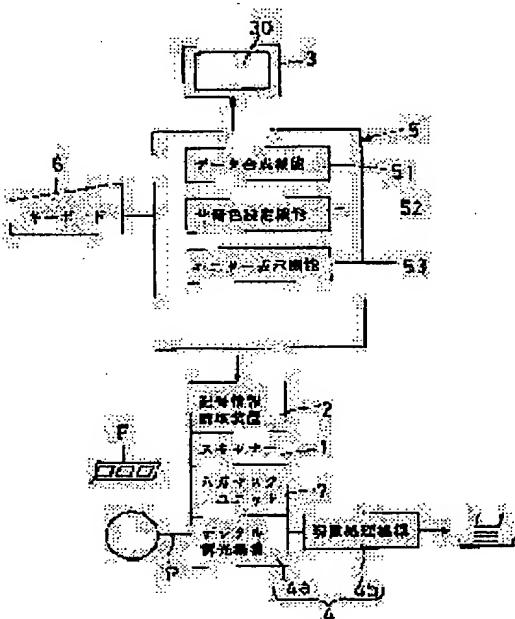
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(54) PHOTOGRAPHIC PROCESSING DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a photographic processing device capable of printing a picture where information such as a character or a graphic printed in an image can be clearly recognized without being influenced by the hue or the density of the image.

SOLUTION: This photographic processing device where image data is printed on photographic paper is equipped with a data synthesizing function 51 for synthesizing various information data expressed through the character, background data such as the character expressed by the information data and image data read by an image reading mechanism, a background color setting function 52 for setting the background of the information such as the character synthesized in the image in a different color from the color of the character, and a digital exposure mechanism 4a by which the data synthesized by the synthesizing function is printed on the photographic paper.



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entitled "PHOTOGRAPHIC PROCESSING DEVICE"

processing device for printing image data on the photographic paper.

5 [What is Claimed is:]

[Claim 1] A photographic processing device performing printing process for printing image data read by an image reading system on photographic paper, the photographic processing device comprising:

10 a data composition function for compositing various information data expressed with characters or the like, a background data of the characters or the like which is expressed by the information data, and the image data read by the image reading system;

15 a background color setting function for setting the color of the background of the information, such as the characters, composited in the image to a color different from the color of the characters; and

a digital exposure system for printing the data compositing by the composition function on the photographic paper.

5 [Prior Arts]

5 A photographic processing device of this kind generally includes in the device body, a scanner as an image reading system for reading, for example, an image of a developed film, an image print processing system for printing the image on photographic paper based on the image data read by the scanner, 10 and a front print processing system for printing the information, such as characters or a diagram, onto the image printed by the image print processing system. The image of the developed film read by the scanner is printed by the aforesaid image print processing system, and the characters or diagram 15 is printed by the front print processing system so as to be superimposed on a part of the image printed by the image print processing system (called "front print", hereinafter), thereby a picture is finished.

20 [Subjects To Be Solved By the Invention]

In the aforesaid photographic processing device, characters or the like are superimposed on an image by the front print processing system using an LED to be printed. Accordingly, for example, if the density of the image around 25 the characters which are printed by the front print processing

[Detailed Description of the Invention]

[Field of the Invention]

25 The present invention relates to a photographic

system is high, the front print part of the printed photograph cannot be recognized, and for example, if the front print is performed with a blue LED and the color of the image in the position of the front print is also blue shade, the front print merges into the image and cannot be recognized in the same way as described above.

The present invention has been developed considering the aforementioned conditions, and aims to provide a photographic processing device capable of printing a picture in which information such as characters or a graphic printed in an image is able to be clearly recognized without being influenced by the aforesaid image.

[Method for Solving the Subjects]

15 To accomplish the aforementioned objects, the invention described in claim 1 is a photographic processing device performing printing process for printing image data read by an image reading system on photographic paper, the photographic processing device having a data composition function for 20 compositing various information data expressed with characters or the like, a background data of the characters or the like which is expressed by the information data, and the image data read by the image reading system; a background color setting function for setting the color of the background of the 25 information, such as the characters, composited in the image

to a color different from the color of the characters; and a digital exposure system for printing the data composited by the composition function on the photographic paper.

5 [Preferred Embodiment of the Invention]

An embodiment of the photographic processing device relating to the present invention is described below referring to the drawings.

Fig. 1 schematically shows one embodiment of the photographic processing device of the present invention. The photographic processing device basically has a scanner 1 as an image reading system for reading the image of each frame of a developed film F, a recording information reading device 2 for reading the information recorded on the developed film F, a display device 3 for displaying the image, various information or the like read by the scanner 1 and the recording information reading device on a color monitor screen 30, a printer 4 for printing the image, various information or the like read by the scanner 1 and the recording information 20 reading device 2 on photographic paper P, a control device 5 for controlling each of the constitutional members 1, 2, 3 and 4, and a keyboard 6 as an input means for inputting various information and the like to the control device 5.

The printer 4 includes a digital exposure system 4a for 25 printing the image of each frame of the film F read by the

scanner 1 on the photographic paper P, and a development processing system 4b for performing the development process of the photographic paper P which is exposed by the digital exposure system 4a. The printer 4 prints each image read by the scanner 1 on the photographic paper P, and develops the photographic paper P by the development processing system 4b to finish printing.

The digital exposure system 4a has a PLZT head in a line shape so as to perform line exposure to the photographic paper P.

The control device 5 has a microcomputer, and structures a data composite function 51 for compositing various information data expressed with characters, a graphic, mark or the like, a background data as the background of the characters, graphic, mark or the like, and the image data read by the scanner 1 on the program of the aforesaid microcomputer, a background color setting function 52 for setting the color of the background of the information, such as the characters, to a color different from the color of the aforesaid characters or the like, and a monitor display function 53 for displaying on the color monitor screen 30 of the display device 3 the image read by the scanner 1, various information read by the recording information reading device 2 and various information inputted from the keyboard 6.

In the embodiment shown in the figure, various

information data expressed with the characters, graphic, mark or the like includes the information read from the developed film F by the recording information reading device 2, the information directly inputted by an operator with the keyboard 6, and the information stored in the storing function of the microcomputer constituting the control device in advance. In printing these information on the photographic paper P, the characters, diagram, mark or the like is printed in a desired font, size and color, by the key operation of the keyboard by the operator.

The aforementioned background data is stored in the storing part of the microcomputer in advance. In the illustrated embodiment, a background B1 along the outline of each character and the like as shown in Fig. 2, and oblong and band-like backgrounds B2 and B3 as shown in Fig. 3 and Fig. 4 are stored in the aforesaid storing part in advance, and the background printed on the photographic paper P and the position and size thereof are able to be set by the key operation of the keyboard 6 by the operator.

The background color setting function 52 automatically set to a color different from the color of the characters or the like in printing, accompanying that the color of the information, such as the characters, in printing is set.

Reference number 7 in the figure shows a negative mask unit.

In the aforementioned photographic processing device, the kind, arrangement position and size of the backgrounds B1 to B3 and the color of the information, such as characters, in printing are set by the operation of the keyboard 6, and the 5 developed film F is set to the negative mask unit 7 to start the print process. The image of each frame of the developed film F set in the negative mask unit 7 is read by the scanner 1 accompanying therewith, and various information written on the developed film F is read by the recording information 10 reading device 2.

The image S read by the scanner 1, the characters T as the information which is to be printed on the image S and the backgrounds of the characters B1 to B3 and the like are displayed sequentially on the color monitor screen 30 of the 15 display device 3. And at the same time, the image S, the information, such as the characters T, and the backgrounds thereof B1 to B3 which are displayed on the monitor screen 30 are exposed on the photographic paper P by the digital exposure system 4a, and developed by the development 20 processing system 4b to complete the desired prints P1 to P3 as shown in Fig. 2 to Fig. 4, respectively.

In this way, the printed information, such as the characters T, is able to be clearly discriminated due to the backgrounds B1 to B3 printed in a different color from the 25 color of the characters T, and is never influenced by the

density or hue of the printed image S.

In the aforementioned embodiment, the scanner 1 for reading the image of the developed film is used as the image reading system. However, the present invention is not limited thereto, and, for example, a reading device for reading 5 photographed data photographed by a digital camera or the like may be used.

[Effects of the Invention]

10 As described above, in the present invention, the photographic processing device, performing the printing process for printing the image data read by the image reading system on the photographic paper, has the data composition function for compositing various information data expressed 15 with characters or the like, the background data of the aforesaid information, and the image data read by the image reading system; a background color setting function for setting the color of the background of the information, such as the characters, compositing in the image to a color different from the color in which the information is expressed; and a digital exposure system for printing the data 20 compositing by the composition function on the photographic paper. With such an arrangement, the information, such as characters, positioned in the printed image is able to be accurately and clearly recognized without being influenced by 25

the density or hue of the image, because the background is printed in a different color from the color of the characters or the like.

5 [Brief Description of the Drawings]

Fig. 1 is a schematic constitutional view of a photographic processing device relating to the present invention;

Fig. 2 is an illustration showing an example of the picture printed by the photographic processing device of the present invention;

Fig. 3 is an illustration showing another example the picture printed by the photographic processing device of the present invention; and

Fig. 4 is an illustration showing still another example the picture printed by the photographic processing device of the present invention.

[Description of the References]

- 20 1 Scanner (image reading system)
- 4a Digital exposure system
- 51 Data composition function
- 52 Background color setting function
- P Photographic paper

